

providers, the existing rules provide for a meaningful unbundling structure which precisely addresses the interconnection issues under study in this proceeding.

The simple fact is that current ONA rules, by focusing on ESP requirements, provide a fair and meaningful unbundling device based on market demand which are better designed to deal with discriminatory access than would be a vague and generic “fundamental unbundling” requirement. To date no complaints have been filed that U S WEST has in any way deviated from its responsibility to attempt to comply with these service requests. In other words, pursuant to the existing ONA rules, U S WEST is proceeding with network unbundling responsive to the needs and demands of ESPs in precisely the manner anticipated by the Ninth Circuit. No more is necessary.

## VI. CONCLUSION


The foregoing discussion and, more importantly, the attached exhibits, demonstrate dramatically that the focus and thrust of the Open Network Architecture rules as conceived and adopted by the Commission were correct. The Commission had predicted and hoped that RBOC integrated enhanced service operations, coupled with open network architecture and nonstructural safeguards, would enhance competition, improve consumer choice, and benefit the public. This prediction has been proven correct. Open Network Architecture plus integrated RBOC enhanced service operations have been an unqualified success. It would be unwise and irra

tional to seek to turn back the clock and return to the days of Computer II structural separation.

Respectfully submitted,

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April 7, 1995

ATTACHMENT 1

**Response to FCC NPRM**

**THE BENEFITS OF RBOC PARTICIPATION IN  
THE ENHANCED SERVICES MARKET**

**USWEST**

**April 4th, 1995  
Denver**

This document is confidential and intended solely for the  
use and information of the organization to whom it is addressed

**BOOZ•ALLEN & HAMILTON INC.**

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## I. INTRODUCTION

## I. Introduction

In 1988, in Computer Inquiry III (CI-III), the FCC established Open Network Architecture (ONA) rules by which Regional Bell Operating Companies (RBOCs) could offer Enhanced Services without locating these services in structurally separate subsidiaries. After legal challenges to the CI-III framework, the FCC has issued a Notification of Proposed Rulemaking in which it considers the possibility of reverting to a requirement for structural separation. It has invited comments from industry.

Booz-Allen & Hamilton believes there is a compelling argument in Favor of CI-III rules. This argument breaks down into three key parts:

### KEY ARGUMENTS IN FAVOR OF CI - III RULES

- Under CI-III rules, The RBOC's current and near-term service offerings contribute to the public good and have not harmed competitors
- Under CI-II rules, The RBOC's ability to offer these services would be diminished, and therefore the public good would be reduced and The RBOCs would be harmed
- Competitors would not be materially advantaged by structural separation (except by the weakening or elimination of a major competitor) because current safeguards against anti-competitive behavior are effective

At U S WEST's request, this document focuses on the evidence to support the first of these arguments. The other arguments are addressed in other documents. The evidence is broken down into three parts as described in **Table I.1: Benefits of the Current Rules Environment**. Evidence is first presented which demonstrates that the market for Enhanced Services is flourishing under existing rules. The second and third parts of this document present evidence about the two most important sectors that RBOCs have been involved in: Voice Messaging and Enhanced Fax Services. In Voice Messaging, the RBOCs have played an important role in developing the residential and small business sectors. In the Enhanced Fax market, the RBOC's participation has

increased public awareness of the product in a rapidly growing sector, even though they themselves have not been very successful in capturing share.

**TABLE 1.1: BENEFITS OF THE CURRENT RULES ENVIRONMENT**

KEY ARGUMENT	FACT BASIS
<ul style="list-style-type: none"> <li>• A robust ESP market has evolved under the existing non-structural separations policy</li> </ul>	<ul style="list-style-type: none"> <li>• There are a large number of participants &amp; growing revenues in each key Enhanced Services segment</li> <li>• U S WEST (and RBOC) retail market share in those segments in which they participate is fairly low</li> <li>• Most Independent Players regard U S WEST as a valuable partner rather than a competitor</li> </ul>
<ul style="list-style-type: none"> <li>• The participation of the RBOCs has stimulated the development of the Voice Messaging Market</li> </ul>	<ul style="list-style-type: none"> <li>• RBOC Voice Messaging has increased the size of the VM market but equipment providers are also thriving,</li> <li>• RBOC Participation has resulted in much lower prices for consumers</li> <li>• The RBOCs have greatly expanded the base of subscribers who use voice messaging services, especially in the residential and small business segments</li> <li>• However, many independent Voice Messaging Service Providers are still thriving</li> <li>• There are minorities/geographies who depend on U S WEST for service</li> <li>• There are user constituencies that would not otherwise be served (e.g. Parent-Teacher link)</li> </ul>
<ul style="list-style-type: none"> <li>• The participation of the RBOCs has stimulated the development of the Enhanced Fax Services Market</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced Fax Services have thrived</li> <li>• U S WEST promotional spend has increased awareness of the Enhanced Fax category</li> <li>• The RBOCs have captured little share but Service Bureaus have grown significantly</li> </ul>

## II. THE ENHANCED SERVICES MARKET

## II. The Enhanced Services Market

### II.1. Growth in Enhanced Services

*The Enhanced Services Market has exhibited healthy growth since the entry of the RBOCs at the end of the 1980's. Their participation has not impeded development of this market.*

Services offered over the telephone network, which act on the content of transmitted information or involve the subscriber in interaction with stored information, fall under the title of Enhanced Services. The Enhanced Services market consists of several major segments:

- **Voice Messaging:** this service enables users to receive messages when they are either away from their phone or, in some cases, on another call. Different systems provide additional capabilities such as the ability to retrieve messages remotely, to forward them to other parties' "voicemail" boxes, or to notify the user that a message has arrived by paging or calling another designated telephone number.
  - **Equipment Sales:** Voice Messaging can be provided by a piece of equipment attached to the individual line - a Telephone Answering Device (TAD), which is common among residential users and small businesses, or through a voice messaging system which can support many "mail boxes", often in conjunction with a PBX.
  - **Voice Messaging Services:** many companies, including the RBOCs now provide Voice Messaging Services which enable subscribers to obtain voice messaging capabilities without buying their own equipment. Calls to their telephone which are not answered are diverted to a distant voice messaging system and they are given access codes to recover and process messages.
- **Audiotex:** this service involves use of a voice platform to provide various kinds of information and services, accessed using a touch-tone key pad, often via a menu system. Applications are mainly from

businesses offering information to consumers, and are often entertainment oriented, including horoscopes, personal ads, TV soap updates, games and adult entertainment. However there is increasing interest in using Audiotex to automate routine business processes such as order taking.

- Online Databases/Transaction Processing: Online Database service enables subscribers to access databases of text and video information, to be read on screen or downloaded, as well as communications, transactions and entertainment services. This market is divided into two key segments. The commercial segment, which currently comprises the bulk of the market (\$11.7BN in 1994) and which has been growing relatively slowly, serves mainly professional customers in sectors such as brokerage, credit, financial news, legal and marketing information. The residential segment (\$800MM in 1994) has been growing much more rapidly. One of the biggest areas of growth is in provision of access to the Internet.

Transaction Processing service enables companies to transmit and process financial transactions from automatic teller machines (ATMs), credit- and debit-card purchases, and automated clearinghouses (ACH) or settlement functions. ATM transaction services are usually provided by banks. Point of sale purchase transactions, which require immediate verification and authorization, are sometimes handled by third party service providers who store the databases of card issuers. Some ACH transactions are handled by third parties but the majority are handled by the issuers.

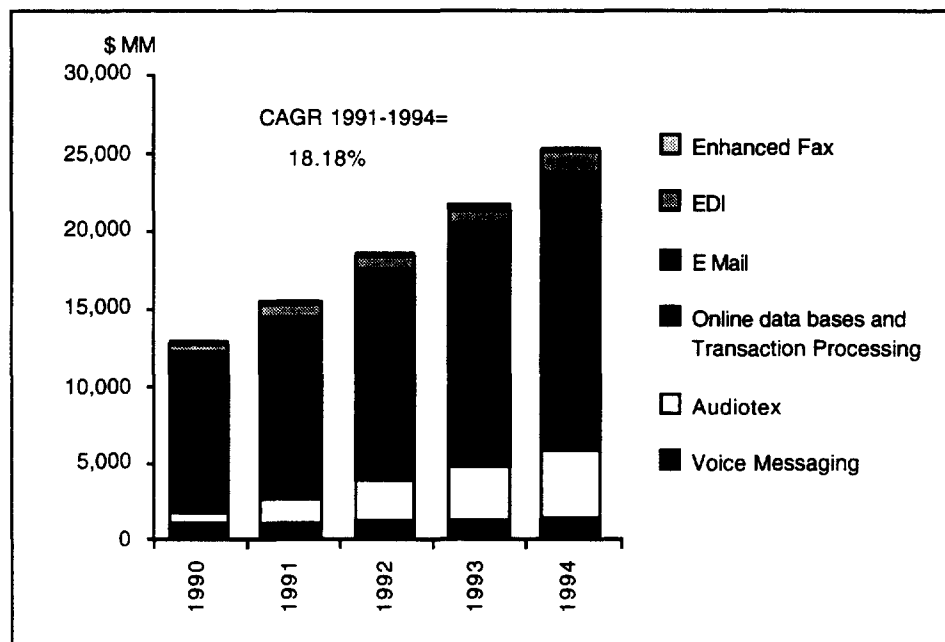
- E Mail: this service allows text or other data to be transmitted from a terminal or PC. Most services enable users to store and forward documents, to receive receipts indicating that messages have been read, and to broadcast messages to customized distribution lists. These services are often bundled into Value Added Network Services (VANS) or consumer online services.
- EDI: This enables firms, often with different information systems, to exchange detailed information on orders, inventories, leadtimes with

their suppliers and customers which reduces errors, decreases response times and facilitates Just in Time Processes. These services are often offered via VANS

- **Enhanced Fax:** this service breaks into four main applications. Broadcast fax enables users to send a fax to multiple destinations at once. Fax retrieval allows users to dial up and order information to be faxed to a fax machine that they indicate. Store and Forward capabilities allow users to send a fax even when the recipient machine is busy. The system will store the fax and attempt to resend it for several hours. Another service that is offered, sometimes in conjunction with E mail, is a fax mail box, where a fax is stored when it is received and the subscriber can download the fax from his mail box to the fax machine of his choice when it is convenient.

All these segments combined yield a market which has grown at 18% for the last three years and which is worth over \$25.4BN in 1994.

**EXHIBIT II.1: GROWTH IN ENHANCED SERVICE REVENUES<sup>1</sup>**



<sup>1</sup> Voice Messaging Services excludes sales of business premise equipment and Telephone Answering Devices, and also exclude wireless based Voice Messaging Services.

## II.2. Enhanced Service Providers

*All the segments of the Enhanced Services Market are richly populated by successful players other than the RBOCs. RBOC presence in these markets has not reduced competition. In fact, they have only achieved significant penetration of one segment - voice messaging services. Furthermore, most Enhanced Service Providers in U S WEST's territory regard U S WEST as a reliable provider of basic services which enable their enhanced service offerings.*

Each of the Enhanced Service segments has a large number of players. Competition is generally quite healthy but the rapid growth ensures that there are many winners in each segment. Table II.1 shows some of the major players in each segment, with market shares, where available, and recent segment growth.

**TABLE II.1: ENHANCED SERVICE PROVIDERS**

<b>SEGMENT</b>	<b>SELECTED MAJOR PROVIDERS (MARKET SHARE WHERE AVAILABLE)</b>	<b>SECTOR REVENUE CAGR (1991-94)</b>
Voice Messaging <sup>1</sup>	Octel, Voice-Tel, VoiceCom (5%), AT&T (<1%), MCI (<<1%), Sprint (<<1%), Scherers Communications, Envoy Global, Dial-Com, Ameritech (3%), Bell Atlantic (10%), Bell South (11%), NYNEX (4%), Pacific Bell (5%), Southwestern Bell (4%), US West (7%)	55%
Audiotex	Call Interactive, Info-access, Sherers Communications, US Audiotex	41%
Online data bases and Transaction Processing	Compuserve, Prodigy, America Online, Dialogue, Genie, Delphi, AT&T-INN, Disclosure, Dow Jones, Dun & Bradstreet, Newsnet, Reuters, Thompson, ADP, Equifax, First Data Resource, New York ACH, VISA, Deluxe Data Systems, Remittance Processing Service	15%

<sup>1</sup> Shares in this segment are of Service revenues, excluding equipment sales

E Mail	AT&T (16%), Sprint (5%), MCI/BT (5%), GEIS (11%), Advantis (1%), Compuserve, Prodigy, America Online,	22%
EDI	BT Tymnet, GEIS, Advantis, Sterling Software, Harbinger, AT&T, Sprint	17%
Enhanced Fax	AT&T (6%), Sprint (7%), MCI (7%), C&W (3%), LDDS (<1%), RBOCs (7%), Xpedite (11%), Mediatel (2%), GTE, SNET, Advantis, GEIS, Technology Solutions, PR Newswire, World Data Delivery, Instant Information, Marketfax, Actionfax	44%

Source: Insight Research, Frost and Sullivan, Marketfinders, Goldman Sachs

The RBOCs participate to some degree in nearly all these service segments, as demonstrated by the records of the Comparably Efficient Interconnection (CEI) Plans which they are obliged to file with the FCC for all Enhanced Service products that they plan to offer. They have also filed plans for several services, especially video-related ones which they are currently developing.

**TABLE II.2: RBOC CEI FILINGS FOR EXISTING AND PLANNED ENHANCED SERVICE CATEGORIES**

--	--	--	--	--	--	--	--

#### **CURRENT SERVICES**

Voice Messaging	X	X	X	X	X	X	X
Online Databases		X		X	X		X
Audiotex	X						X
Electronic Mail		X			X		
EDI	X	X	X	X	X	X	X
Transaction Processing							X
Enhanced Fax Services	X	X	X				X

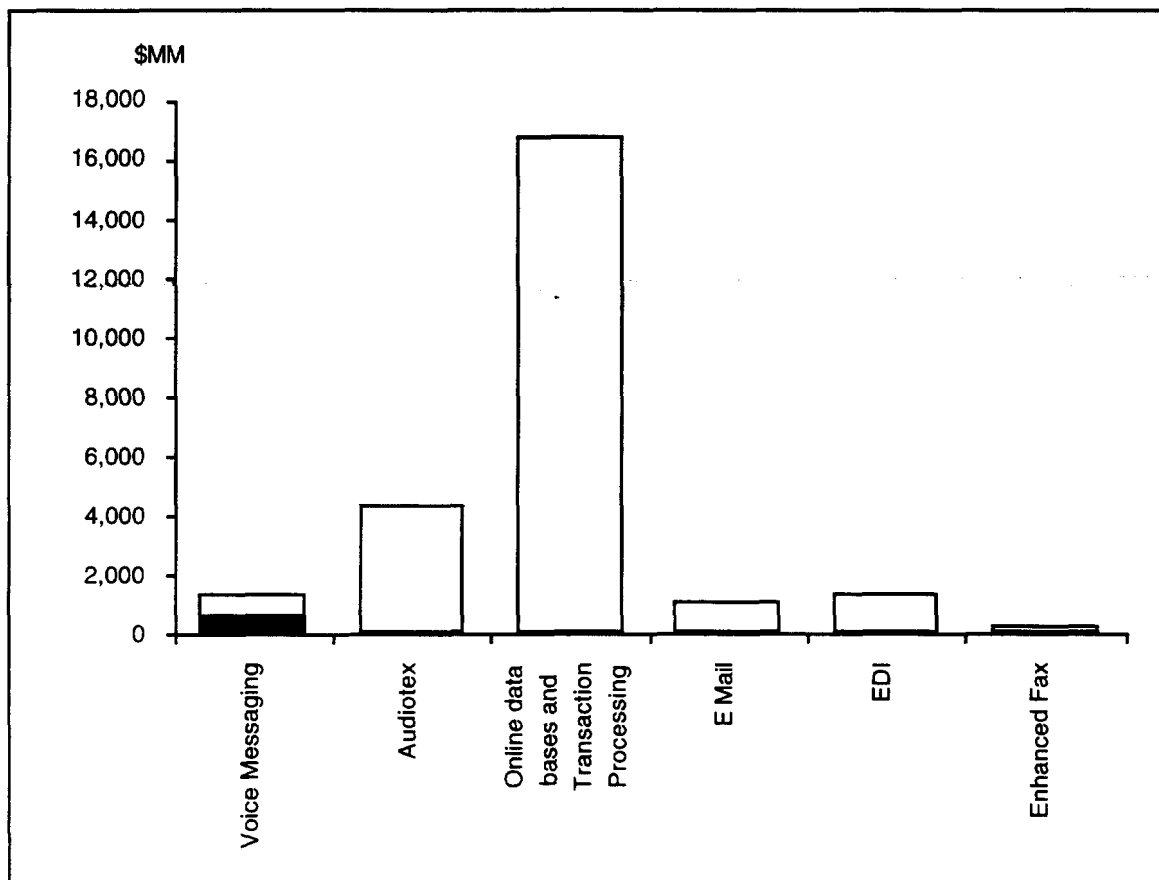
#### **SERVICES IN DEVELOPMENT**

Interactive Voice Services with Call Count		X					
Video Server		X					

Level Two Video Gateway		X		X			(X) <sup>1</sup>
Video & Text Programming, Interactive		X		X			X

However, RBOCs have attained very little penetration in any of the segments except Voice Messaging. This demonstrates clearly that they do not have a monopolistic position in Enhanced Services. There are many other players in each segment which are competing successfully, in many cases more successfully than the RBOCs.

**EXHIBIT II.2: RBOC SHARE OF ENHANCED SERVICE MARKETS**



Source: Insight Research, Frost and Sullivan, Marketfinders

The RBOC's participation in Voice Messaging and Enhanced Fax is discussed below in more detail. They have scant participation in the other Enhanced Service markets:

<sup>1</sup> In development but no CEI plan filed

- **Audiotex:** The RBOCs have introduced a number of local services, including traffic information and directory services. Pacific Telesis, for example, offers a Daily Reporter service in conjunction with its voice messaging service whereby programs on topics such as sports and weather can be downloaded to voice mail boxes. The RBOCs entry, whilst still on a small scale, is helping to overcome the poor image of Audiotex services created through fraudulent and misleading activities of some players in this market
- **Online Databases:** RBOC participation here has also been very limited. U S WEST set up a Joint Venture with France Telecom in 1991 but it was not a success and they withdrew from the market in 1994. NYNEX also discontinued its "Info-Look" gateway after two years, and Pacific Telesis abandoned its product "California-on-line" before it was even introduced.
- **Email, EDI and Transaction Processing:** The RBOCs have experimented with these services, but they have not achieved significant penetration in any of them.

U S WEST holds frequent discussions with non-affiliate Enhanced Service Providers (ESPs) in its territory about its compliance with the Open Network Architecture rules (which govern the way it offers the various elements of service that are required for Enhanced Services). These rules are designed to ensure that the RBOCs own Enhanced Service businesses do not receive preferential treatment. Most ESPs regard U S WEST as a reliable supplier.

### III. VOICE MESSAGING

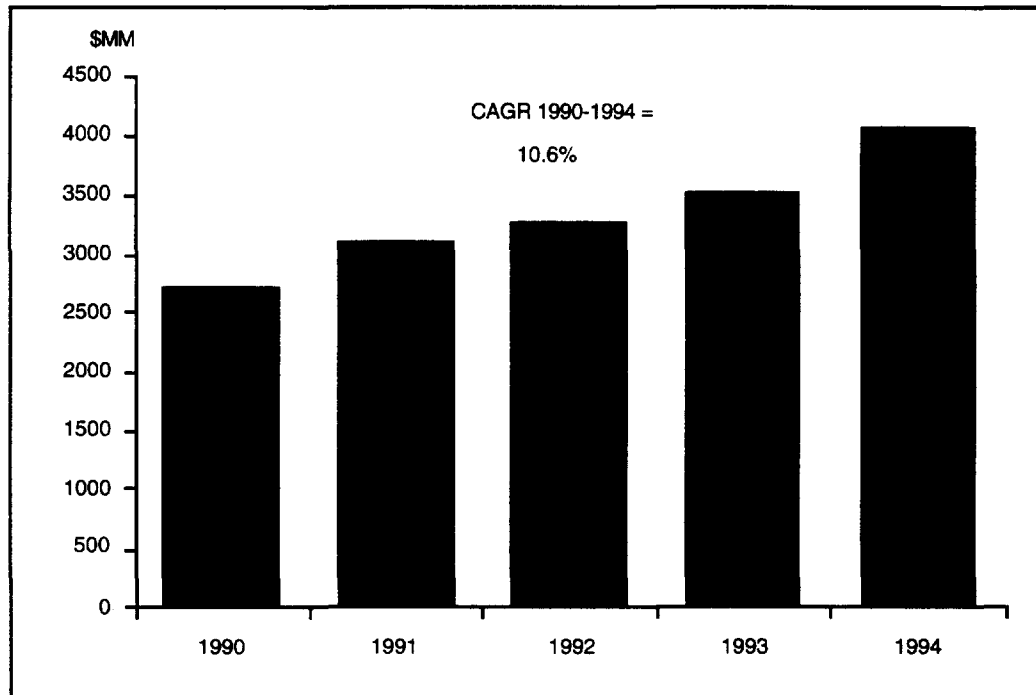
### III. Voice Messaging

#### III.1. Market Growth

*The Total Voice Messaging Market, including both equipment and services has shown healthy growth in the last few years. RBOC revenues have grown dramatically. but sales of Voice Messaging Equipment, which compete directly with Voice Messaging Services, have continued to expand as well.*

The Voice Messaging Market, including sales of business premise equipment and Telephone Answering Devices, has, in aggregate, grown quite rapidly since the RBOCs entered the market. It has increased from \$2.7BN in 1990 to \$4.1BN in 1994. This reflects continued increases in penetration of TADs, from 35% of US Households in 1990 to 66% in 1994. It also reflects more than a doubling of the number of subscribers to Voice Messaging Services. Currently, more than 9MM people use these services, up from only 4MM in 1990.

**EXHIBIT III.1: TOTAL VOICE MESSAGING MARKET  
(EQUIPMENT AND SERVICES)<sup>1</sup>**



Source: Yankee Group, Frost and Sullivan, NATA

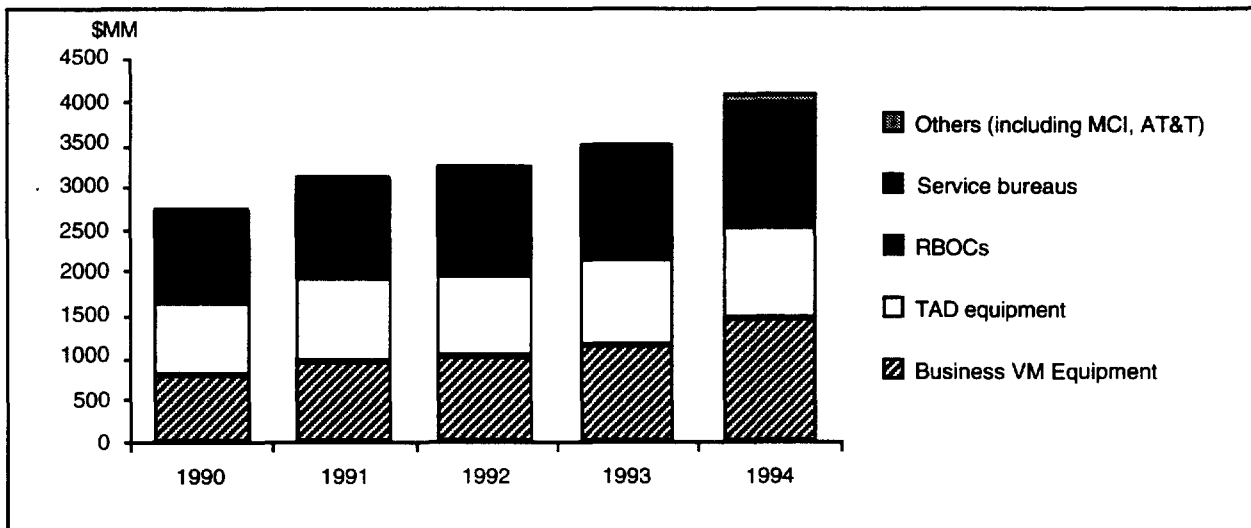
<sup>1</sup>Includes: Telephone Answering Devices; Business Voice Messaging Equipment; Service Bureau, RBOC, IXC and Independent LEC Voice Messaging Service revenues

There are different factors driving the growth by each major provider segment:

- **Business VM equipment:** the growth in this market has slowed to an average of 7% in the last four years (down from 52% per year between 1986 and 1990) as the market reaches saturation. Prices have also declined due to healthy competition – the largest player, Octel, has only 18% of the market. There is a trend towards integration of Voice Messaging systems with other messaging applications such as Email which will stimulate some additional growth.
- **Telephone Answering Devices:** partly spurred by the arrival of affordable voice messaging services from the RBOCs, TAD equipment vendors have introduced machines with significantly improved features. A switch to digital technology has increased reliability, and facilitates introduction of features such as Caller ID, multiple mail boxes, call blocking, call logs, remote notification and voice announcements. With these improvements, the only major benefit that messaging services have over TADs is the ability to take a message when the phone is busy. On the other hand, TADs allow callers to screen calls, and, they usually have a visual message indicator, which many users prefer. Consequently, TADs continue to provide strong competition to providers of VM services in the residential and small business sectors.
- **Voice Messaging Services**
  - **RBOCs:** The RBOCs launched voice messaging services in 1990. These services have been targeted at the residential segment. They have experienced extremely rapid growth, which reflects the fact that their services are priced substantially lower than the previously available services which were targeted at business users (see below). Nonetheless, in total lifetime costs they are still much more expensive than TADs, and consequently the number of subscribers (nearly 5MM in 1994) is small compared to the installed base of TADs (64MM in 1994).

- **Service Bureaus:** These have traditionally offered service to businesses. Only 10% of their revenue came from the residential segment in 1994, mainly from professional users such as doctors and lawyers. Service Bureaus were the first to offer automated voice messaging, but many also already offered live answering, which is much more costly to provide than automated voice messaging. (In 1994, about 75% of Service Bureau revenue still came from live answering).
- **IXCs and Independent LECs:** These players make up the tail end of the service market. The IXCs offer national voice messaging services almost exclusively to large businesses which span several regions. AT&T was the only IXC provider in the market until it dropped out in December 1993. MCI entered in 1994. Given that the IXC service was priced at a premium to local or regional services, it has been a difficult sell and MCI currently has less than 1% share of service revenues. The Independent LECs offer similar services to the RBOCs and have about 6% of the service market.

**EXHIBIT III.2: VOICE MESSAGING MARKET BY VENDOR TYPE  
(EQUIPMENT AND SERVICES)**



Source: Frost and Sullivan, NATA, Yankee Group, BAH Analysis

### III.2. Voice Messaging Service Pricing

*RBOCs entered the market in 1990 and have driven the prices for Voice Messaging Services down considerably. This has enabled large segments of the population to buy the service which could not previously afford it.*

Prior to the entry of the RBOCs, Service Bureaus typically charged \$15-25 for a voice mail box. They charged substantially more for live answering services - sometimes up to \$170 per month. RBOCs have been offering services at much lower prices since 1990. In real terms, these prices have been flat since their entry.

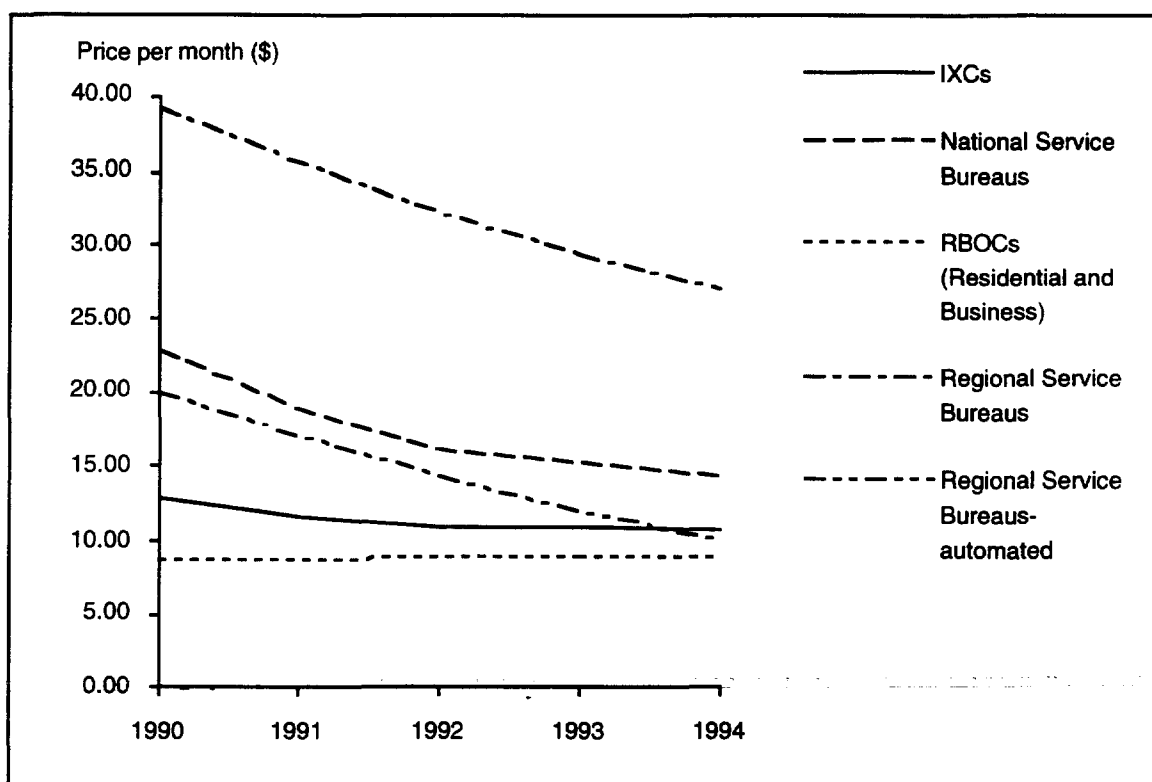
**TABLE III.1: RBOC RESIDENTIAL VOICE MESSAGING BASIC SERVICE PRICING (\$/MONTH)**

<b>RBOC</b>	<b>1990</b>	<b>1991</b>	<b>1993</b>	<b>1995</b>
Ameritech	6-8.00	Varies	5.25	6.75
Bell Atlantic	3.00	5.00	6.25	6.50
Bell South	6.45	3.95	6.95	6.50
NYNEX	6.00	6.13	5.95	6.00
Pacific Telesis	4.95	4.95	5.95	6.50
Southwestern Bell	5-6.00	5.50	5.95	5.95
U S WEST	6.95	6.95	6.45	6.95
<b>AVERAGE</b>	<b>5.69</b>	<b>5.50</b>	<b>6.11</b>	<b>6.45</b>
Real Prices (\$1990)	5.69	5.28	5.52	5.66

*Source: Yankee Group, IMF (Retail Price Index)*

This has forced Service Bureaus to lower prices for basic Voice Messaging Services. For example Octel (Tigon), one of the largest Voice Messaging Service Bureaus, offered Voice Messaging for \$15-25 in 1992 but has now lowered its prices to the \$10-20 range. The price can be even lower with volume and long term discounts. The average price paid for Service Bureaus offering local automated voice messaging has now fallen from \$20 per month to \$10. However, since RBOCs do not offer live answering, the Service Bureaus have tried to recover some of their revenues by putting up prices for live answering (the average price has risen from about \$70 to \$80 per month).

### EXHIBIT III.3: VOICE MESSAGING SERVICE PRICES



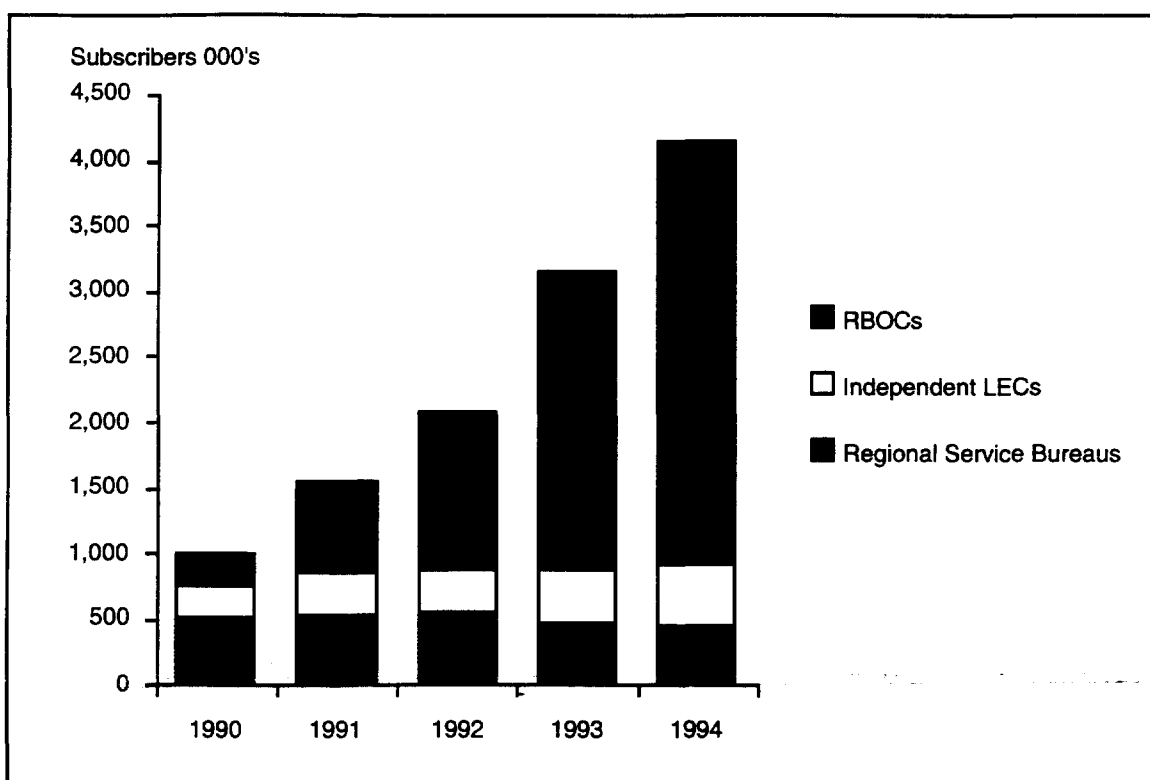
Source: Frost and Sullivan, Yankee Group, BAH Analysis

### III.3. Voice Messaging Subscribers

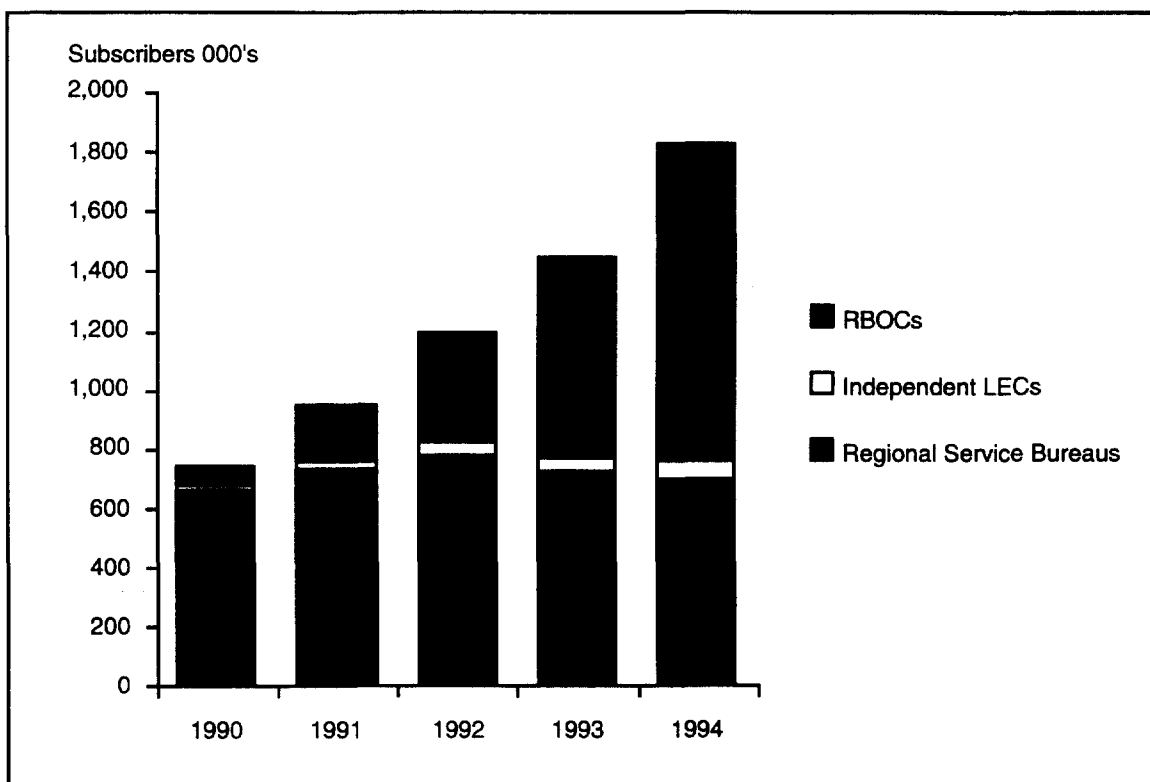
*The RBOCs participation in the market has greatly expanded the number of users in both the residential segment and the small business segment.*

The prices that RBOCs are offering has greatly expanded the base of subscribers in the residential segment and the small business segment. RBOCs have brought this service to an entirely new segment of users for whom Service Bureau prices were much too high. In the residential sector, the total number of subscribers has expanded from 1.0MM in 1990 to 4.2MM in 1994. RBOC subscribers have risen from 240K in 1990 to 3.2MM in 1994. Service Bureau subscribers have stayed just about flat at between 400K and 500K.

### EXHIBIT III.4. RESIDENTIAL VOICE MESSAGING SERVICE SUBSCRIBERS



### EXHIBIT III.5: SMALL BUSINESS VOICE MESSAGING SERVICE SUBSCRIBERS



Source: Frost and Sullivan, Yankee Group, BAH Analysis

A similar trend is has also taken place in the small business segment. The number of subscribers in the small business segment has risen from 740K in 1990 to 1,800K in 1994. RBOC subscribers have risen from a few thousand in 1990 to 1.1MM in 1994 and Service Bureau subscribers have stayed flat at around 700K subscribers.

#### **III.4. Service Bureau Performance**

*Even though the RBOCs have signed up large numbers of subscribers in the residential and small business segments, the independent Service Bureaus have maintained their subscriber base and many companies have thrived, partly through targeting the business market with a larger range of products and functions.*

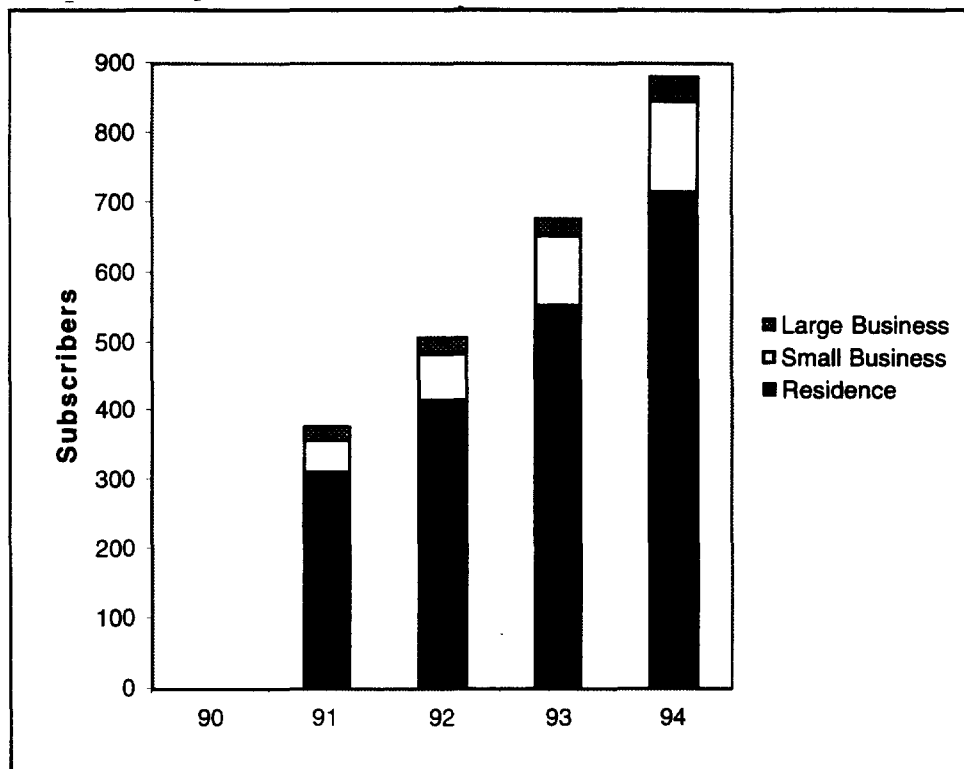
RBOC competitive offerings have forced Service bureaus to reduce prices for Voice Messaging Service especially in the residential segment (which never represented their core business) and grow other parts of their business (in particular, equipment). Nonetheless, many players are still thriving. Voice-Tel, VoiceCom and Octel, the three major Service Bureaus, have all expanded dramatically in the last couple of years. Service Bureaus, in general, have expanded their services to offer combined live and automated answering services, cellular phones and pagers, 1-800 numbers, voice and fax messaging, domestic and international long distance calling, speed dialing, conference calling, travel reservations, voice response-based field activity management reporting, secretarial services and even voice messaging equipment sales. There has been a consolidation as well, as the Bureau's try to achieve the economies of scale of larger players. For example, VoiceCom more than quadrupled its revenues from \$15M to 65M in 1993 when it acquired Async from MCI and the voice services division of Wang Information Services. Voice Bank, a smaller Service Bureau, based in Georgia has also bought out a number of small players in its region and plans to acquire bureaus in other areas as well.

### III.5. U S WEST's role in the Voice Messaging Services Market

*U S WEST has focused almost exclusively on the residential segment. Besides bringing an affordable service to this segment in general, it has benefited certain parts of the populations through the introduction of special products which would not be provided by independent Service Bureaus.*

The RBOC emphasis on the subscriber segment described in **Section III.3** is reflected in the break down of U S WEST's own subscriber base, which is heavily skewed towards the residential segment. 95% of U S WEST's subscribers are residential customers. U S WEST is providing a real benefit to the community by providing this service to a whole new set of customers. Most Voice Messaging Service Bureaus in U S WEST's territory do not even regard U S WEST as a direct competitor because they are pursuing a different segment of the market.

**EXHIBIT III.6. U S WEST VOICE MESSAGING SUBSCRIBERS**



Source: U S WEST